WHAT IS CLAIMED IS:

1. (Amended) A multiple tube type separation membrane module comprising:

plurality of tubular separation membrane elements having sealed ends and open ends;

outside pipes surrounding the tubular separation membrane elements with spaces formed therebetween and having first openings on the sealed ends side of the tubular separation membrane elements as well as second openings in the vicinities of the open ends of the tubular separation membrane elements;

means for inlet communicating with the first openings of the outside pipes;

first means for outlet communicating with the open ends of the tubular separation membrane elements; and

second means for outlet communicating with the second openings of the outside pipes,

wherein a fluid flowing from the first openings of the outside pipes through the means for inlet flows in the spaces between the tubular separation membrane elements and the outside pipes, components separated from the fluid by the tubular separation membrane elements flows out from the first means for outlet through the open ends of the tubular separation membrane elements, and the remaining fluid flows out from the second means for outlet,and

wherein the tubular separation membrane elements comprise hollow ceramic tubes around which a zeolite membrane having fine

pores approximately as large as the molecules of substances to be separated is formed.

2. (Amended) A multiple tube type separation membrane module comprising:

a shell having an outlet;

a first support plate fixed to an end of the shell;

a second support plate fixed to the other end of the shell;

plurality of outside pipes supported by the first and second support plates and extending in the lengthwise direction of the shell;

tubular separation membrane elements disposed in the outside pipes;

a first cover attached to the first support plate; and

a second cover attached to the second support plate,

wherein the outside pipes have first openings formed on the first cover side through which a fluid flows as well as second openings formed on the second cover side through which the remaining flows out after the completion of separation processing, the tubular separation membrane elements have sealed ends on the first cover side as well as open ends on the second cover side, and the spaces between the outside pipes and the tubular separation membrane elements are opened on the first cover side and sealed on the second cover side, thereby a component, which is separated by the tubular separation membrane elements from the fluid flowing from the first openings of the outside pipes into the spaces between the outside pipes and the tubular

separation membrane elements, flows out into the second cover from the open ends of the tubular separation membrane elements, and the remaining fluid flows out from the outlet of the shell through the second openings, and

wherein the tubular separation membrane elements comprise hollow ceramic tubes around which a zeolite membrane having fine pores approximately as large as the molecules of substances to be separated is formed.

3. A multiple tube type separation membrane module according to claim 2 further comprising:

a partition attached to the first cover to form a first chamber and a second chamber on both sides of the partition,

wherein a fluid flowed into the first chamber passes through the spaces between the outside pipes having first openings in the first chamber and the tubular separation membrane elements, flows out from the second openings of the outside pipes, flows into the outside pipes having first openings in the second chamber from the second openings, passes through the spaces between the outside pipes and the tubular separation membrane elements, and flows into the second chamber.

4. A multiple tube type separation membrane module according to any of claims 1 to 3, wherein the inside diameter of the outside pipes is 1.1 to 2 times the outside diameter of the tubular separation membrane elements.

5. A multiple tube type separation membrane module according to any of claims 1 to 4, wherein the sealed ends of the tubular separation membrane elements are fixed in the outside pipes while keeping the spaces by pins disposed to either the outside pipes or the sealed ends.

6. (Deleted)

7. (Deleted)